

Application No. 10/609,121

Filed: June 27, 2003

TC Art Unit: 1722

Confirmation No.: 6700

REMARKS

The instant Remarks are filed in response to the official action dated April 29, 2005. Reconsideration is respectfully requested.

The status of the claims is as follows:

Claims 1-4 are currently pending.

Claims 1-4 stand rejected.

The Examiner has rejected claims 1 and 3 under 35 U.S.C. 103(a) as being unpatentable over Hume et al. in view of Swenson et al. Specifically, the official action indicates that the Hume reference substantially teaches the injection mold of claims 1 and 3, however, Hume et al. do not teach the use of a cylindrical tip formed of metal having a lower thermal conductivity than the nozzle body. The official action further indicates that the Swenson reference teaches a nozzle tip formed of titanium alloy having a lower thermal conductivity than the steel used for the mold body. In addition, the official action indicates that Swenson et al. teach that the nozzle piece sits on a shoulder of the nozzle body, thereby reading on the Applicants' claim that the nozzle includes a nozzle body having an opening formed in the end face of the nozzle, a short cylindrical tip with a flat end face, and a nozzle orifice in the center of the end face, the tip being

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slidably fitted in the opening formed in the end face of the nozzle in such a way that its end face is protruded from the end face of the nozzle and directly touches the gate of a sprue of a cavity. The Applicants respectfully submit, however, that the combination of the Hume and Swenson references fails to teach or suggest each limitation of claims 1 and 3, and therefore the rejections of claims 1 and 3 under section 103 of the Patent Law are unwarranted and should be withdrawn.

For example, the Applicants respectfully submit that the suggested combination of the Hume and Swenson references fail to teach or suggest an injection mold having a tip that is slidably fitted in the opening formed in the end face of a nozzle in such a way that its end face is protruded from the end face of the nozzle and directly touches the gate of a sprue of a cavity, as recited in base claim 1. This limitation is disclosed throughout the instant application, for example, see page 3, lines 15-19, of the application.

The Applicants respectfully submit that the Hume reference neither teaches nor suggests an injection mold having a tip that is slidably fitted in the opening formed in the end face of a nozzle. The Applicants further submit that although Swenson et al. disclose an outer nozzle piece 46 having a first end 46a that

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is seated on a shoulder 44c of an inner nozzle piece, Swenson et al. further disclose that the first end 46a has threads 48 that are adapted to mate with threads 49 formed in a recess 40 of the nozzle (see column 4, lines 29-32, and Fig. 2, of Swenson et al.). Clearly, a nozzle piece having threads that mate with threads formed in a recess of a nozzle is not suggestive of a nozzle tip that is slidably fitted in an opening formed in the end face of a nozzle, as recited in base claim 1. The Applicants respectfully submit that the Hume reference fails to cure this deficiency of the Swenson reference.

Important advantages are achieved by providing an injection mold having a nozzle including a tip that is slidably fitted in an opening formed in the end face of the nozzle. For example, a nozzle-touching force can be easily kept and resin leakage can be prevented (see page 5, lines 31-33, of the application).

Because the suggested combination of the Hume and Swenson references neither teaches nor suggests an injection mold having a tip that is slidably fitted in the opening formed in the end face of a nozzle, as recited in base claim 1, the Applicants respectfully submit that the combination of the Hume and Swenson references does not render claims 1 and 3 and the claims dependent therefrom obvious. Accordingly, it is respectfully submitted that

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the rejections of claims 1 and 3 under 35 U.S.C. 103(a) are unwarranted and should be withdrawn.

The Examiner has further rejected claims 2 and 4 over Hume et al. in view of Swenson et al., and further in view of Ciccone. The Applicants respectfully submit, however, that the Ciccone reference fails to cure the deficiencies of the Hume and Swenson references, and therefore the suggested combination of the Hume, Swenson, and Ciccone references does not render dependent claims 2 and 4 obvious. For example, the Applicants respectfully submit that the suggested combination of the Hume, Swenson, and Ciccone references fails to teach or suggest an injection mold having a tip that is slidably fitted in the opening formed in the end face of a nozzle, as recited in base claim 1. Accordingly, it is respectfully submitted that the rejections of dependent claims 2 and 4 under section 103 of the Patent Law are unwarranted and should be withdrawn.

In view of the foregoing, it is respectfully submitted that the present application is in a condition for allowance. Early and favorable action is respectfully requested.

The Examiner is encouraged to telephone the undersigned Attorney to discuss any matter that would expedite allowance of

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the present application.

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